



Health and Welfare  
Canada

Santé et Bien-être social  
Canada

## Health Protection Branch

# ISSUES

### ENVIRONMENTAL SENSITIVITIES

"My dear friend," he would say, "I beg you: shall I be causing you much inconvenience if I ask you to take the handkerchief out of your jacket? You know how I can't bear any perfume... the last time you were so good as to come and see me... I was obliged to take the chair you sat in and keep it out in the courtyard for three days."

from *Marcel Proust: His Life and work*. by Leon Pierre-Quint, Peter Lang, 1925

### Background

Environmental sensitivities are a medical conundrum of the 20th century. They constitute an illness that in a very real scientific sense seems to defy description or definition. Doctors and scientists have had great difficulty in nailing down precise causes and symptoms or defining a universally accepted clinical description of this condition.

The number of names for these afflictions indicates the confusion this condition causes in the medical world. In a recent report prepared for the New Jersey Department of Health, twenty labels were identified including: multiple chemical sensitivities, universal allergy, 20th century illness, cerebral allergy, environmental maladaptation syndrome, conditioned odour response, immune dysfunction and environmental illness. There are also many similarities to "chronic fatigue syndrome."

Although environmental sensitivities are often linked to allergies in that affected persons seem to react to unusually small doses of the substance(s) to which they are sensitive, they are unlike traditionally defined allergies in that they do not exert their effects in the same way.

### **Symptoms and Diagnosis**

Part of the difficulty with identifying and treating this illness is that people suffer an array of symptoms. As well, many of these symptoms are subjective, meaning they are not observable.

Generalized anxiety, palpitations, tremor and sweating, muscle and chest pains, headache, tingling in the extremities: all these are examples of symptoms reported to doctors, sometimes but not always in tandem with more objective symptoms such as wheezing, rhinitis, eczema or skin rashes.

People often complain of fatigue or poor concentration, or experience confusion, short-term memory loss or fits of crying.

Occupational medicine practitioners describe the occasional person who has been exposed to a chemical spill on the job and then develops pneumonia. After temporary improvement and a clearing X-ray, instead of getting better, the shortness of breath and chest pain increases.

At home, the worker's symptoms are worsened when he/she is exposed to chemical odours. Back on the job, when the worker is re-exposed to fumes, acute symptoms return. Then, even common household products or contaminants may cause debilitating respiratory symptoms. In the words of clinical ecologists, the patient is "sensitized" so that even small exposures to the same or another related substance will bring on a reaction.

Environmentally sensitive people may also experience adverse reactions to certain foods which may not occur for hours or even days after their consumption. This causes great problems in trying to determine exactly what substance or substances are causing the reaction. Sensitivities may be tested by keeping the individual on a very careful diet and in a chemically restricted environment for a period of days and then selectively re-introducing the substances suspected of causing the problems.

Clinical ecologists - doctors who subscribe completely to environmental causation of the syndrome - have developed "environmental units" for the care and testing of their environmentally sensitive patients. These units are pristine environments where a patient can remain for a period of a few days to remove the effects of the offending substance(s). Then, the doctor can introduce substances in a completely controlled way to test reactivity.

In most cases, the effects of environmental sensitivities are not severe enough to warrant complete isolation. Sensitive individuals may be able to continue to live or work in an environment which may contain a material or materials to which they react. But after some time in some cases, the syndrome may become completely debilitating and in these cases, emotional symptoms and incapacitating depression may be a secondary result.

### **Disease Prevention and Treatment**

Prevention is the most important and simplest aspect of this problem if the offending agent(s) can be identified. Allergens or other offending agents that can be avoided or removed at home (animal dander, house dust mites, household chemicals) should be eliminated. Non-specific triggers which may aggravate the condition in sensitive persons (cigarette smoke, constant fumes, changes in temperature and humidity) should be investigated and controlled when possible. In persistent cases it may be necessary to consider the basic home construction, heating and cooling systems (electric heating is cleaner than oil heating) as well as potential problems of moisture and mildew in bathrooms or basement. Particular attention should be directed to the bedroom where children and older persons spend much of their time.

In the workplace, adequate ventilation, appropriate protective clothing and respirators for workers, coupled with proper waste disposal techniques, will avoid contamination of workers and others with toxic chemicals. The Workplace Hazardous Materials Information System (WHMIS) which was developed through consultation between government (federal, provincial, territorial), labour and industry, assists in this regard. This system requires suppliers and employers to alert workers to potential hazardous materials/ chemicals in their workplace. It also requires that employers inform workers both how to handle these materials safely and how to protect themselves using appropriate gear.

Improvement may be accelerated by reducing the overall load on the immune system. For example, when foods are an important agent, an allergy elimination diet may be recommended under careful medical supervision. This diet is structured to remove the foods which commonly cause an allergic reaction, including milk and milk products, cereal grains (wheat and corn) and refined carbohydrates (white sugar and white flour). Similarly, in instances where dust, grass pollen, or mould, are implicated, specific allergen immunotherapy may be useful.

## **Conclusion**

In May of 1990, the Laboratory Centre for Disease Control, a research wing of the Health Protection Branch at Health and Welfare Canada organized a workshop of professionals and interest groups to discuss and debate the current state of investigation into environmental sensitivities. Participants included medical experts, health researchers and representatives of the Allergy Information Association, the Allergy and Environmental Health Association, the Canadian Society for Environmental Medicine, the Canadian Society of Allergists and Immunologists, the Canadian Public Health Association and the Canadian Medical Association.

This group was considered representative of current thinking on environmental sensitivities. The group concluded that the admission of the existence of the disorder is primary to further investigation, and also that a diagnosis of psychological illness should only be reached as a last resort.

Recommendations from the meeting have set in motion a positive, proactive approach to investigating and dealing with environmental sensitivities. Professionals and administrators agree that there is a great need for a coordinated effort to educate both public and professionals and provide necessary information to all interested groups.

In particular, they recommended that environmental sensitivities, because they so far lack a firm diagnostic base, need to be considered on a case-by-case basis, with acknowledgement of dysfunction or disability and compassion for the individual being the central tenets of treatment.

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